

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MICHIGAN
SOUTHERN DIVISION

EATON CORPORATION,

Plaintiff,

Case No. 03-74844

vs.

HON. GEORGE CARAM STEEH

ZF MERITOR LLC, ARVINMERITOR,
INC. and ZF FRIEDRICHSHAFEN AG,

Defendants.

ORDER REGARDING DEFENDANTS' OBJECTIONS
TO SPECIAL MASTER'S REPORT AND RECOMMENDATION
ON CLAIM CONSTRUCTION ISSUES FOR U.S. PATENT 5,644,458

The '458 patent is entitled "Rolling Start Control System/Method for Semi-Automated Mechanical Transmissions". The '458 patent discloses a computerized system and a method of steps in which a rolling start mode of operation is automatically selected when the system/method determines that the vehicle ground speed exceeds a minimum reference value and the transmission is in neutral. The invention takes the uncertainty out of "rolling starts" by providing a semi-automatic system by which the driver, with a "single movement" of a "control lever" can put the transmission into proper gear for the truck's ground speed.

Method claim 1 provides:

1. A method of controlling a semi-automatic mechanical change gear transmission system (10) comprising a fuel-throttle-controlled engine (14) having a known idle speed (ES IDLE), a multi-speed change-gear mechanical transmission (12), a friction master clutch (16) interposed between the engine and transmission, a manually operated shift selection lever (1) movable in a first direction from a centered position to select upshifts and in a second position from said centered position to select downshifts from the currently engaged gear ratio, a central processing unit

(38) for receiving inputs indicative of transmission engaged ratio, of vehicle speed (OS) and of operation of said manual shift selection lever and for processing same according to predetermined logic rules to issue command output signals to non-manually controlled operators including a fuel throttle control operator (26) and a transmission operator (34), said method comprising:

[a] determining currently engaged transmission ratio; determining current vehicle speed; and

[b] if said transmission is in neutral (GR=N) and said vehicle speed exceeds a minimum reference value (OS –REF), [c] automatically selecting operation in a rolling start mode of operation wherein a single movement of said shift selection lever in the upshift direction is interpreted as an operator selection of a direct shift from neutral into an appropriate rolling start gear ratio (GR), said [a] appropriate rolling start ratio [d] determined as a function of current vehicle speed.

Defendants make two objections to the Report and Recommendation of the Special Master. First, they object to paragraph 20 of the recommended construction, which concludes that “the conditions of neutral, vehicle speed and upshift can be checked by the processor in any order.” Defendant argues that the construction ignores the express “if” language of claim limitation [b], as well as the teaching of the specification that the processor must determine that two preconditions exist before proceeding to perform element [c]. Second, defendants argue that the recommended construction in paragraph 21 that element [c] means “when the transmission processor receives an upshift request with the vehicle in rolling start mode of operation, the processor automatically selects operation to an appropriate start gear,” improperly eliminates the limitation of “automatically selecting operation in a rolling start mode of operation.”

As to defendants’ first objection, the claim language provides for the steps of “determining the currently engaged transmission ratio” and “determining the current

vehicle speed". The computer software involved is programmed to make these determinations automatically and constantly while the vehicle is running. There is no temporal link between the determinations, or relative to any other event. Therefore, the court adopts the Special Master's construction in paragraph 20 that the conditions of neutral, vehicle speed and upshift can be checked by the processor in any order. The only modification made by the court is that the term "checked" be changed to "determined" because the term "checked" does not appear in the claim language, while the term "determining" does so appear.

Regarding defendants' second objection, the court agrees with the construction by the Special Master that the circumstances of neutral and vehicle speed cause the vehicle to be in a state of rolling start mode of operation. Once the vehicle is in a rolling start mode of operation, an upshift request will be interpreted by the processor as a request for a rolling start gear. The claims do not require the processor to select a mode of operation, as proposed by defendants. The court, therefore, adopts the Special Master's recommended construction in paragraph 21 without modification.

It is so ordered.

Dated: November 13, 2006

S/George Caram Steeh
GEORGE CARAM STEEH
UNITED STATES DISTRICT JUDGE

CERTIFICATE OF SERVICE

Copies of this Order were served upon attorneys of record on
November 13, 2006, by electronic and/or ordinary mail.

S/Josephine Chaffee
Deputy Clerk